

Periodic System of the elements

without rows being split for inserting groups of heavier elements.

Both **H** and **He** actually belong to the **s-block**, but they are "special" elements & **He** is always listed in the **p-block**.

(In astronomy: ^1H (~73% by mass) & ^4He (~25% by mass, ratio of nos. of atoms: $\text{H} : \text{He} \approx 12 : 1$)

are **special** as if they would be the only "true" elements; all others (~2%) are called *metals*.)

Hydrogen: 1e in outer shell → group 1 (alkali metals) as **H** & lacking 1e in outer shell → group 17 (halogens) as **H*** (e.g. in hydrides).

Helium: full outer shell → group 18 (noble gases) as **He** & 2e in outer shell → group 2 (alkaline earth metals) as **He***.

p e r.	f(undamental)	d(iffuse)										p(rincipal)						s(harp)		p e r.
	group:	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	1	2	
																		H 1	He* 2	1
1																H* 1	He 2	Li 3	Be 4	2
2												B 5	C 6	N 7	O 8	F 9	Ne 10	Na 11	Mg 12	3
3												Al 13	Si 14	P 15	S 16	Cl 17	Ar 18	Ka 19	Ca 20	4
4		Sc 21	Ti 22	V 23	Cr 24	Mn 25	Fe 26	Co 27	Ni 28	Cu 29	Zn 30	Ga 31	Ge 32	As 33	Se 34	Br 35	Kr 36	Rb 37	Sr 38	5
5		Y 39	Zr 40	Nb 41	Mo 42	Tc 43	Ru 44	Rh 45	Pd 46	Ag 47	Cd 48	In 49	Sn 50	Sb 51	Te 52	I 53	Xe 54	Cs 55	Ba 56	6
6	Lanthanides	Lu 71	Hf 72	Ta 73	W 74	Re 75	Os 76	Ir 77	Pt 78	Au 79	Hg 80	Tl 81	Pb 82	Bi 83	Po 84	At 85	Rn 86	Fr 87	Ra 88	7
7	Actinides	Lr 103	Rf 104	Db 105	Sg 106	Bh 107	Hs 108	Mt 109	Ds 110	Rg 111	Cn 112	Nh 113	Fl 114	Mc 115	Lv 116	Ts 117	Og 118			

La 57	Ce 58	Pr 59	Nd 60	Pm 61	Sm 62	Eu 63	Gd 64	Tb 65	Dy 66	Ho 67	Er 68	Tm 69	Yb 70
Ac 89	Th 90	Pa 91	U 92	Np 93	Pu 94	Am 95	Cm 96	Bk 97	Cf 98	Es 99	Fm 100	Md 101	No 102

Of **Np** & **Pu** only microscopic natural traces are found, so they're essentially artificial, **Am** and higher are artificial only.

block names are based on appearance of spectral lines									
f-block	d-block	p-block					s-block		
philosopher's stone	metals	transition metals	metalloids	nonmetals	halogens	noble gases	primordial elements	alkali metals	alkaline earth metals

Strange chemical symbols from English perspective			
Z	<i>element name</i>	<i>symbol</i>	<i>symbol origin</i>
11	Sodium	Na	Natrium
19	Potassium	K	Kalium
47	Silver	Ag	Argentum
50	Tin	Sn	Stannum
51	Antimony	Sb	Stibium
74	Tungsten	W	Wolfram
79	Gold	Au	Aurum
80	Mercury	Hg	Hydrargyrum
82	Lead	Pb	Plumbum

To convert ***symbols*** to ***names*** etc., see:

https://www.periodni.com/elements_symbols_sorted_alphabetically.html

https://www.periodni.com/elements_names_sorted_alphabetically.html

https://www.periodni.com/elements_sorted_by_atomic_number.html

https://en.wikipedia.org/wiki/List_of_chemical_elements

and of course loads of other web sites...

It's no wonder that truth is stranger than fiction. Fiction has to make sense.

Mark Twain, Following the Equator (1897): Truth is stranger than fiction, but it is because fiction is obliged to stick to possibilities; truth isn't.

Never argue with stupid people; they will drag you down to their level and then beat you with experience.

Mark Twain's actual phrasing: Never argue with a fool; onlookers may not be able to tell the difference.